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Wesley L. Crow

January 15, 2006

7815 Lee Highway

Troutville, VA 24175

United States Dept of Commerce

United States Patent and Trademark Office

Commissioner for Patents

PO Box 1450

Alexandria, VA 22313-1450

Attention: Robert J. Scruggs

**Application control number 10/761,266 art unit 3723**

3 Enclosures:

1. A copy of revocation of power of attorney. The original should be sent from Dinesh Agarwal our former attorney.
2. A copy of letter dated August 29, 2005 from Wesley Crow to Dinesh Agarwal.
3. A copy of letter dated October 1, 2005 from Wesley Crow to Dinesh Agarwal.

In regards to detailed action sheets sent out 12/16/05, your response to applicants amendments you received on November 10, 2005.

Page 3 of the above mentioned action report explaining Schoeps two piece variable length socket. I think this is misstated. In patent 3,832,916 paragraph one this is a variable torsion bar. Changing the length of insertion changes the torch setting. It was not designed as a variable length socket. With its locking positions and extra parts could not be used as the Crow tool can be.

As stated in the copies of the two previous letters sent, the retractable handle part of the patent application should have been terminated. I believe this was stated in the amendment you received on November 10, 2005 from our previous attorney.

As stated on page 6 of your detailed action sheet under conclusion Lyon (2896765) does not pertain to our patent.

With regards to Carroll 2004/0074344, this is explained in copies of two previous letters I sent to my former attorney and in his amendments you received on November 10, 2005.

With regards to page 4, paragraph 5 and page 5, paragraph 8 if the two piece tool I am trying to patent does not fall apart with gravity when no circular torque applied it would be worthless You would not be able to use it with one hand in very tight places. When you apply torque to remove a bolt of 40 ft pounds it takes well over 50 lbs of pull to separate the pieces You can not have any form of locking the variable length of the two pieces together or as I just stated it could not be used

**Conclusion :**

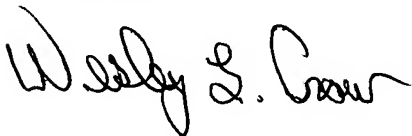
In plain English, if the tool has any locking devices or is not free enough for the tool to separate with gravity it will not work. Aircraft mechanics, auto mechanics and mechanics in general have to buy tools from one of the major tool manufactures such as Craftsman, Mac, Proto, Snap-on, S&K, Stanley, etc. I have never seen a tool such as mine in any catalog. A tool that could be used in a manor as I intend mine to be used. Preferably in tight places and not to replace conventional sockets and fixed length extensions. I would like to see all mechanics have access to my tool to save time and money.

I know it is not any concern to the patent office if a tool is mass manufactured or not but please let me try this one as I know it will work

I have seen over nine patents with variable length drives that are all very similar to each other. However, I have not seen one that has only two pieces with free slid in and out with a drive bar and socket only as I propose.

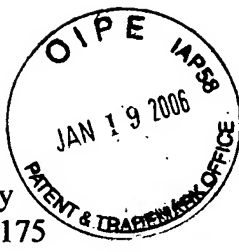
If you need any further information or have any questions please contact me at 540-992-4495 or [wesleycrow@aol.com](mailto:wesleycrow@aol.com).

Sincerely,

A handwritten signature in black ink that reads "Wesley L. Crow". The signature is written in a cursive, flowing style.

Wesley L. Crow

Wesley L. Crow  
7815 Lee Highway  
Troutville, VA 24175



August 29, 2005

our copies  
2  
SENT Aug 29, 2005

Dinesh Agarwal, P.C.  
5350 Shawnee Road  
Suite 330  
Alexandria, VA 22312

Re: U.S. Patent Application of  
Wesley L. Crow  
Title: Variable Length Socket  
Serial No.: 10/761266 - Filed: January 22, 2004  
Or Ref: US 1358/03

Dear Dinesh:

Please find enclosed pictures A-G .

I hope this letter explains differences between Carroll and Crow Patents. If you have any questions or need any further information please call.

With regards to the extendable handle on the ratchet wrench on figure 1 part 40 through 50 of our original patent application I agree with their findings and wish to terminate that part of the application as it was very similar to the Lee Patent #6,408,721.

With regards to the to the variable length socket that attaches to the ratchet shown on figure 1 of my original application composed of the following numbers: 22, 10, 14, 16, 18, 34, and 12. I do not agree with his findings on the reply received by your office on August 15, 2005 from examiner Scruggs mailed 8/11/2005 and I wish to dispute his claim.

On page 2 under claim rejections paragraph 4 he states that Carroll (2004/0074344) has a variable length socket. However, under Carroll's description he calls it an extendable spline drive socket system. Nowhere on pages on pages 1,2,3,or 4 of his description does Carroll call it a variable length socket. He calls it just what it is an extendable spine drive socket system. He refers to page 3 paragraph 27 and page 2 paragraph 22. He refers to various lengths which include 1/2 to 6 inches. This is the manufactured length, which cannot be shortened or lengthened while connected to your work except by adding or removing pieces. Under the Carroll patent his

device is primarily as he states "An extendable spline drive socket system." As described on page 1 paragraph 0008 Summary of Invention. On page 2 paragraph 23 he is explaining how the nut can extend up into the socket deeper but in no way is it variable to extend or retract the length of the socket while it is in place.

With our continuously variable length socket we can extend or retract the distance from the ratchet to the end of the socket while it is connected to the work without changing pieces. This enables you to do jobs that cannot be done with the Carroll system. Please see enclosed pictures and further explanations.

As in picture A note the length A-B is fixed and not variable due to obstructions. Therefore the length of the socket and extension combination has to be exact. With Carroll's system you would have to have certain pieces manufactured for this specific job because it is not variable. With Carroll's system even if you had the correct length you could not install it since it will not retract in place as required, as shown in picture B. Remember there are obstructions so that ratchet wrench cannot be moved left or right, or up or down. Note in picture D that with the Carroll system the pieces slide together but cannot be compressed to make the last piece mate.

Note in picture C that by sliding part B over part A you can obtain the desired length. In practice you would install the socket on the spark plug or bolt with part B over part A for minimum extension then when lined up, extend it to mate with the socket wrench. If your system is not retractable and variable this cannot be done. With our system standard length drive extensions can be added to give you additional length as required for any job.

The obstructions may seem to be absurd however, as a mechanic with 37 years aircraft experience it happens. When in a small area you have hydraulic lines, electrical conduit, static lines, mounting brackets, control rods, etc. This happens. Please note in picture E how easy it is to get to spark plugs on left side of engine facing the front. Please note in pictures F and G the difference. It is almost impossible to change a plug with existing tools. Some cars even required the engine be unbolted from frame and raised up 6 inches to get access to plugs as a cost of \$400.00 plus. With our system in most of these cases this would not be necessary and could be done much quicker and less expensive.

This variable socket assembly is not designed for everyday routine work. It has no locking devices and part B can easily slide off part A. When used in tight places it could save you many hours of work.

With best regards.

Very truly yours,

Wesley Crow



3

Wesley L. Crow  
7815 Lee Highway  
Troutville, VA 24175

October 1, 2005

Dinesh Agarwal, P.C.  
5350 Shawnee Road  
Suite 330  
Alexandria, VA 22312

SENT TO DINESH  
10-1-05

Re: U.S. Patent Application of  
Wesley L. Crow  
Title: Variable Length Socket  
Or Ref: US 1358/03

Dear Dinesh:

In regards to interview summary at the patent office on September 27, 2005.

I acknowledge workable model had square cross section rather than star spline. However this model was just to show extension and retraction capabilities of our tool. Mr. Hail and Mr. Scruggs referenced Carroll 2004/0074344 and Lee 6408721. The applicant argued that the Carroll device was not intended to be used as a sliding device but used locked in place. The Crow device is intended to be used as a sliding mating tool to extend or retract as needed.

Although not discussed during the interview, with regards to the extendable handle on the ratchet wrench on figure 1 part 40 through 50 of our original patent application, I agree with their findings and wish to terminate that part of the application as it was very similar to the Lee Patent #6408721.

As discussed with examiners Hail and Scruggs we will define our structure differences over the prior.

1. Under abstract (57) Carroll has a multi piece socket system having a large internal cavity to allow a protrusion of a long rod to extend into the socket.
  - The Crow Variable Length Socket Figure 1 part 16,14,18 has no cavity and is solid. Only part 6,38,12 has a cavity.
2. With the Carroll system Summary of Invention, 0008. When assembled the socket extensions, collars, and drive adapter form a long tubular body. This assembly is attached together using interlocking teeth on the inside and outside of the ends of each member. Further more a spring biased pin extends from the wall of one member and through a hole in the wall of the mating member.

- With the Crow Variable Length Socket the entire assembly is made of only two pieces with no locking devices at all.
3. With the Carroll system as stated under the summary of invention, 0008 and field of invention, 0003 the primary use is to have a locked socket assembly with a long internal cavity to allow threaded members to be driven onto a long rod.
- With the Crow Variable Length Socket there is no locking between the two parts of the device socket US 1358/03 (0012) and its primary use is as described in (0008) is to have a socket easily extended to the distance of the part being manipulated in a hard to reach area and the drive handle.
4. In the Carroll system in drawings sheet 1 of 9 shows that 24 and 20 (the piece that connects to the drive device), 70, 86, and 72 (the extension collar) and 40, 56, and 42 (the piece that connects to the driven device ) are all larger external diameter devices since they are driven by internal and external spline which is well suited for its intended use of allowing a rod to extend into the cavity.



- With the Crow Variable Length Socket all the above mentioned pieces are replaced with just two pieces as shown in drawing figure 1. The piece 10, 16, 14,18 that connects to the ratchet wrench is much smaller in size since it is one piece, solid and not tubular. This helps very much in getting into tight places as opposed to the larger Carroll system.

The following are further clarifications of the existing Crow patent US 1358/03.

With the Crow Variable Length Socket in Detailed Description of the Preferred Embodiment(s) of the Invention 0025 states that the recess 34 is selected to generally correspond to the upper length of the spark plug to enable the hex nut 36 to engage into recess 34. The length and/or shape or configuration of the recessed 34 may be varied as desired to accommodate other components to be manipulated by the variable length socket of the present invention.

As explained in Detailed Description of the Preferred Embodiment(s) of the Invention 0025 which allows the length or shape of the recessed 34 (figure 1) to be varied, it would be reasonable and proper to expect that point 34 could be changed to allow a much shorter recess to accommodate only the head of a bolt and not the long top body of a spark plug. This would of course move the abutment 38 (figure 6) to a shorter recess also.

Under the Detailed Description of the Preferred Embodiment(s) of the Invention 0024 (Figure 6) it is noted herewith that it is within the scope of the invention to vary the number, length, and/or shape of configuration with the cooperating male and female splines 18 and 30. This would allow, at times with certain applications part 14,10,16,18 (Figure 5) to extend past the midpoint into part 6,38,12. (Figure 5)

In closing the Carroll tool should work nicely removing a nut from a long rod with the rod extending deep into the tool. The Crow tool in the same instance would not be as affective. However, in close places where you could not even see but would have to feel for the work in specific limited fixed length.areas the Crow tool would work much better even in places the Carroll tool would not be able to maneuver at all.

With best regards.

Very truly yours,

Wesley Crow.